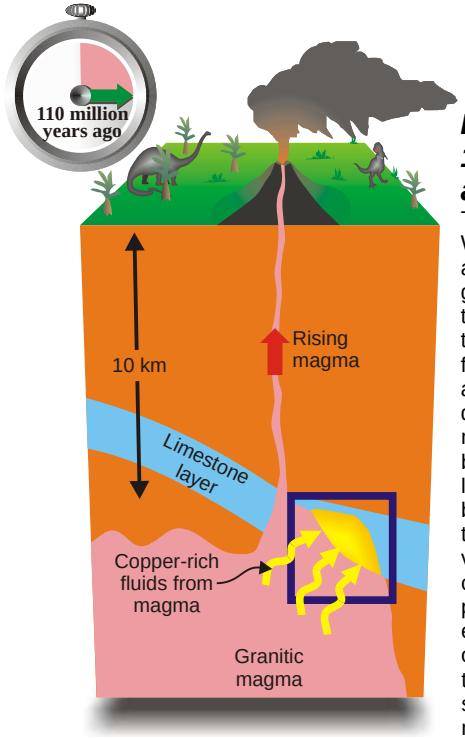
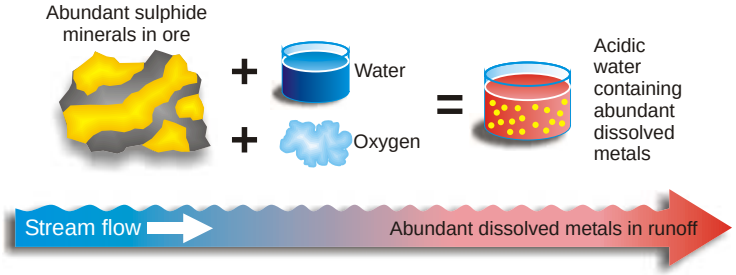


Birth of an orebody: 110 million years ago and 10 km down...

The copper deposits of the Whitehorse Copper Belt occur at the boundary between granite and limestone. Why is this so? Geologists explain it this way. The copper deposits formed about 110 million years ago, during the age of dinosaurs. Granitic magma moved upward through deeply buried crustal rocks, including layers of limestone. Copper-bearing fluids released from the crystallizing granite reacted vigorously with limestone, causing copper minerals to precipitate. Subsequent erosion of about 10 km of overlying rocks has brought these copper deposits near the surface, where they can be mined.

Q. Acid rock drainage?

Many mining operations must deal with the problem of acid rock drainage, which occurs when rock rich in sulphide minerals (commonly pyrite) reacts with water and atmospheric oxygen. Under these conditions, sulphide minerals dissolve, releasing metals and producing acidic waters. Acidic waters can transport high concentrations of metals, which can harm aquatic plants and animals.



A. Not here in Whitehorse Copper Belt!

Acid rock drainage is not a problem in the Whitehorse Copper Belt, because sulphide minerals are sparse in the ore while calcite, which is derived from limestone, is abundant. When calcite dissolves in water, it consumes acid that has been generated by dissolution of sulphide minerals. As a result, waters flowing from the mine wastes do not transport metals.